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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,845	05/31/2005	Mark Thomas Johnson	NL021322US1	6221
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EXAMINER				
CHOWDHURY, AFROZA Y				
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2629				
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03/27/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/536,845

Applicant(s)

JOHNSON ET AL.

Examiner

AFROZA Y. CHOWDHURY

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/20/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-29 is/are pending in the application.
- 4a) Of the above claim(s) 22-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/888)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment received on **December 20, 2007** has been entered. Claims 1-29 are currently pending. Applicant's amended claims and arguments are addressed herein below.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 14, “...**applying a voltage within a specified voltage range above a fusing voltage and below a leakage threshold voltage to a light emitting element...**” is not described in the specification. There is no support for a “**fusing voltage**” and a “**leakage threshold voltage**” in the specification.

4. Claims 1 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1 and 14, “...**applying a voltage within a specified voltage range above a fusing voltage and below a leakage threshold voltage to a light emitting element, within which voltage range the risk of short circuits between the electrodes is reduced...**” is not understood. How is it possible to apply a voltage that is above a fusing voltage and below a leakage threshold voltage in order to reduce short circuits between the electrodes?

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawase et al.** (EP 1225557) in view of **Moller et al.** (US Patent 6,984,934).

As to claims 1 and 14, Kawase et al. discloses a method for driving an organic LED display device having a plurality of light emitting elements (figs. 1, 3(32), col. 13, [0065] – [0066]), said method comprising:

applying a voltage with a specified voltage range within which voltage range the risk of short circuits between the electrodes is reduced (col. 33, [0174] – [[0175], col. 34, [0182] – [0183]), and

controlling the duty cycle (col. 25, [0132]) of said light emitting element (fig. 3(32)), so that a desired light intensity (col. 28, [0156]) is emitted from said light emitting element (fig. 3(32)).

Kawase et al. does not explicitly teach reducing the risk of short circuits between the electrodes of an organic LED (OLED) and the structure of an OLED and a first and a second electrodes sandwiching an organic layer.

However, it is obvious to one skill in the art that in order to reduce the risk of short circuits between the electrodes, voltage needs to be applied within certain range.

Moller et al. teaches an organic LED display device having a first and a second electrode sandwiching an organic layer (col. 3, lines10-15).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to combine OLED structure of Moller et al. with the display device

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of Kawase et al. to make an organic LED device with a desired light intensity capability and bright image.

As to claims 2 and 15, Kawase et al. teaches a method where the duty cycle of the light emitting element is decreased in order to emit a desired light intensity without requiring an applied voltage below a specified lower limit (col. 34, [0181] – [0182]).

As to claims 3 and 16, Kawase et al. teaches a method wherein a default duty cycle of the light emitting element is less than 100%, and wherein the duty cycle is increased in order to emit a desired light intensity without requiring an applied voltage above a specified upper limit (col. 34, [0181]).

As to claim 4, Kawase et al. discloses a method comprising: determining an expected voltage change over time, required to maintain a constant drive current in the light emitting element, and adjusting the duty cycle of said light emitting element accordingly (col. 34, [0181] – [0182]).

As to claim 5, Kawase et al. teaches a method including: monitoring an average pixel voltage in the display, and adjusting the duty cycle of each light emitting element based on this average voltage (col. 33, [0176]).

As to claim 6, Kawase et al. teaches a method including: monitoring a voltage of a light emitting element, and adjusting the duty cycle of the light emitting element based on this voltage (col. 33, [0174]).

As to claim 7, Kawase et al. teaches a method wherein the duty cycle is controlled over each frame (col. 34, [0181] – [0182]).

As to claim 8, Kawase et al. teaches a method where the duty cycle is controlled over a plurality of frames (col. 34, [0181] – [0182]).

As to claim 12, Kawase et al. teaches a method wherein the display device is of passive matrix type (fig. 3, [0065]).

7. Claims 9-11 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawase et al.** (EP 1225557) in view of **Moller et al.** (US Patent 6,984,934) and in further view of **Sanford et al.** (US Pub. 2002/0195968)

As to claim 17, Kawase et al. (as modified by Moller et al.) discloses a display device with a controlling the duty cycle (fig. 1) and applying a target voltage corresponding with a target luminance (col. 33, [0174] – [0175], in Kawase et al.).

Kawase et al. (as modified by Moller et al.) does not teach transistor level circuit connection for voltage applying means.

Sanford et al. teaches a device wherein controlling means comprises a transistor (fig. 1(Q 120)) connected between the light emitting element (fig. 1(OLED 120)) and the voltage applying means (fig.1), and a duty cycle controller connected to the gate of the transistor (fig. 1).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to combine OLED of Sanford et al. with the display device of Kawase et al. (as modified by Moller et al.) to make an organic LED device with a desired light intensity capability.

As to claim 9, Sanford et al. teaches a method wherein the display device is of active matrix type (figs. 1-3, [0030]).

As to claim 10, Kawase et al. teaches a method wherein the duty cycle is controlled for each light emitting element individually (col. 25, [0132], [0174] – [0176]).

As to claim 11, Kawase et al. teaches a method wherein the duty cycle is controlled for a plurality of light emitting elements jointly (col. 25, [0132], [0174] – [0176]).

As to claim 18, Sanford et al. teaches a device where controlling means comprises a duty cycle controller connected to the voltage applying means (fig. 1,

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[0174] – [0176]).

As to claim 19, Sanford et al. teaches a device wherein said controlling means comprises a duty cycle controller connected to the other side of the light emitting element (fig. 1(OLED 120)) in relation to the voltage applying means (fig. 1).

As to claim 20, Sanford et al. teaches a device where voltage applying means comprises a power line (Fig. 1(Vdd)) and a drive transistor (fig. 1(Q 102)) connected between the power line and the light emitting element (fig. 1(OLED 120)).

As to claim 21, Kawase et al. teaches a device wherein a controlling means are arranged to jointly control the duty cycle for a plurality of light emitting elements (col. 25, [0132], [0174] – [0176]).

8. Newly submitted claims 22-29 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: **"light emitting element exhibits a higher likelihood of fusing short circuits below a first voltage and higher likelihood of leakage current above a second voltage"** was not claimed originally.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 22-29 are withdrawn from consideration

as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Arguments

9. Applicant's arguments filed **December 20, 2007** have been fully considered but they are not persuasive.

Applicant argues that Kawase et al. and Moller et al. does not teach, "...applying a voltage within a specified voltage range above a fusing voltage and below a leakage threshold voltage to a light emitting element...". However, **"a specified voltage range above a fusing voltage and below a leakage threshold voltage"** was not claimed before.

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFROZA Y. CHOWDHURY whose telephone number is (571)270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC
3/14/2008

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629